Transcript – Dr Karl Friston

This interview took place via internet video chat at approximately 10am EST on June 1, 2026. The interviewer was Geoffrey Young (indicated in red). The respondent was Dr Karl Friston.

G- First of all, could you tell us the story of your involvement in the covid response?

Yes.

So initially I, sorry, let me give you the background.

My expertise is in complex system modelling, specifically in medical imaging time series analysis and at the advent of COVID and indeed the first few weeks of lockdown, I contacted Graham Medley, who at that time was the chair of the Sage in the UK, briefed with modelling and predicting and making recommendations to the government about strategic responses. And he showed an interest in that kind of modelling, which was novel from the point of view of orthodox epidemiology. But at that point was probably more too future pointing to be useful for the urgent decisions that needed to be made at that point where policy was being decided on an almost daily basis.

So I proceeded to do academic work in preparation for a longer-term involvement and presented that work to colleagues at University College London. (1:30)

In the audience was Anthony Costello, who was a professor of Global Health at University College London, who had been contacted by a previous member of SAGE and indeed I think he was senior advisor to the government for health policy and a number of other people who had thought about setting up a public facing body, which was the independence SAGE.

I was subsequently invited by Sir David King to join the independence age and did so.

And that then unfolded into a series of weekly public facing online briefings for the public and for the interested science media that were each meeting which were on Fridays were preempted by an internal discussion where we talked about inviting guests and what were the current burning issues.

And that went on for a couple of years. (2:45)

To the end of that time, I also became an active member of a small advisory group to a special advisor to the Cabinet Office, which was an alternative route to influencing public policy via special advisors to the

Cabinet Office. And that group included people like Tim Spector and other colleagues from academia. Tim was particularly important because he was running the Zowie app, which was funded by and run by his company, which previously was involved in microbiome research and public health, but was repurposed to gather data about the spread of COVID within the UK.

And we had a series of ad hoc, sometimes weekly meetings around crisis points advising (at that time it would have been Boris Johnson who was in charge) on predictions and underwritten by scenario modelling and then group discussions. And then that group met on an ad hoc basis until effectively the end of the pandemic phase of the or the entry into the endemic phase of COVID, by which time my participation in the independent stage was sort of winding down and they were inviting some public health experts of a different sort, you know, scoping the future to a certain extent.

And subsequent to that, I have maintained a sporadic academic interest and contribution to the literature, largely inspired by retired public health professionals who wanted to look at the validity of the epidemiological modelling for which I was mainly responsible and is now part of the (and still is there if you wanted to look at it and part of the UCL DCM epidemiological modelling scenario) modelling and which also features not weekly, but sort of twice a week or monthly reports, estimating what's going on and providing quantitative information about the state of play of various aspects of the pandemic, including a sort of short term forecasting. (5:30)

So, since that time, every year or so, we've had largely under the auspices of Cam Bowie, who's a retired public health officer. We published in the academic literature looking at post hoc measures of validity. So, looking at the predictions and then comparing those predictions with what actually happened. And that's it. And then you call.

G- So, going back right to the beginning, was it part of an employment mandate, a position you held, to get involved because your expertise was not epidemiological before that. Why did you get involved? What brought you towards the covid effort? 6:20

So no, it was not part of my job description or academic mandate other than the fact that I was regarded or I'm regarded as a world expert in complex system modelling. And it was clear to me that the kind of modelling that was being used by SAGE and their advisors, and that being reviewed by the RAMP Initiative, the Royal Societies Initiative, which I also liaised with. Initially, they were extremely helpful and indeed reviewed a few of our early publications. I should say that the modelling work that I engaged and committed to was also published in open science venues and ultimately, you know, sporadic

publications in things like the BMJ public health, for example. So there's a, there are about between 8 and 16 papers, of varying levels of technical detail describing the modelling. And that was usefully informed by engagement with RAMP, you know, by particular members.

I can't remember the names now, but particular members are particularly helpful in pointing me to this or to that. So, I think like most of us who were not directly involved, and by us, I mean there were other senior academics who had particular skillsets that they thought would be useful and offered their offered their counsel. I do remember, you know, having dialogue with people in control theory who were, you know, used to taking a much more engineering approach to control theoretic approaches to complex system modelling. You know, how do you avoid, you know, catastrophic incidents in managing a nuclear power plant, for example. So, they had that particular skill set that they thought might be useful in the context of the epidemiological modelling and the scenario modelling that could be called upon.

So there are a number of us who are not part of the epidemiological orthodoxy. They had a very particular style of doing things based upon SEIR models, which to my mind were not fit for purpose to make any valid or they did not have the predictive validity of the kind that we would require for medical grade modelling.

And so, you know, a lot of us just did it because, you know, that's what we do and that's what was needed at that time. (9:08)

I was, ultimately the control theoretic people actually found a role in modelling the monitoring of viral particulates in water supplies, for example. So ultimately, they did get an entree into some meaningful contribution. My contribution though was largely to provide the basis for this public facing commenting upon the modelling. Having said that, the independent sage also included public health experts who did not have any experience with modelling and there was a sort of pushback against modelling and the, you know, the dangers of ascribing too much veracity to the modelling predictions. 9:56

So the modelling from the point of view of the independent sage after about a year took somewhat of a backseat. at around the same time that I was bilaterally involved with the Cabinet Office and Independent Sage.

G- If, between Independent SAGE and RAMP, the minds get together and find an approach being used that is not fit for purpose, you are then reasonable going to send that message upwards. How was that received Could you give us the life story of the message? 10:29

Yes.

There were occasions when I had to provide critiques of the modelling initiatives undertaken by RAMP and the requests came from the Cabinet Office. They came directly from the Cabinet Office grounding Boris Johnson at that time and I provided. In fact, you can find copies of those reports on the DCM website. They're slightly buried to avoid too much exposure, but they are there.

And so there were requests to have the work of the SAGE critiqued. However, the role of Ramp was not to critique the work of Sage. It was to triage the enormous amount of material that was being generated by people all around the world who thought they could help very much like me and these control theorists and the independent Sage. But the volume of work was such that it required triaging and ranking in terms of potential utility for Sage. And that was basically what I saw RAMP doing. But Sage were too busy. (11:47)

Sage were basically committed to their own modelling approaches and I think were potentially quite resistant to any alternative approaches and pursued their approach and to a certain extent failed to have any meaningful impact upon governmental decisions as the pandemic wore on because of all the political considerations and other considerations that crept in. So I suspect that they very much like me and everybody else engaged in trying to model, understand, predict, forecast and advise, found it very difficult to do so.

I have to say, from my experience, the most efficient way of making a difference and influencing policy was through via a special advisors to the Cabinet Office.

So, the Cabinet Office would listen to and they would attend the SAGE meetings, which were frequently enormous, probably too big in the sense that no one really could sort of provide a clear message because you had to listen to everybody. (13:21)

And if you had an online meeting of 30 people, then no one was going to be able to say anything of note. So I must say I never actually attended SAGE, but a number of my colleagues on the independent SAGE had previously served on SAGE and knew the game.

So. This is not really answering your question, but it's part of what I imagine you want to know. My experience was if you got the ear of somebody who was close to Boris Johnson or the people in charge of actually making the decisions, you could have much more influence. And to get the ear, you have to have had some standing in the field, but also to be lucky enough to be in a small enough meeting where

what you thought could be articulated clearly and convincingly in the context of a number of other people who had different perspectives and different kinds of expertise. 14:08

So, you know, when you say Independent Sage and RAMP had very different missions. Independent Sage was not there to provide advice to the government. They had Sage for that. We were really, Independent Sage took it on itself to be public facing, to be explaining to the public any other person who wanted to explain to the public, namely science journalists and politicians. We had Andy Burnham attended a number of sessions, Andy Burnham being the contender for the new leader of the Labour Party in the UK at the moment. So we were not there to replace Sage. We were there basically to provide an alternative, independent perspective for the populace. and just provide them with information.

RAMP had a different agenda. It was not there for the populace. It was there to triage, digest and promote where possible those academic or formal or mathematical papers that may, that SAGE themselves may have found useful. 15:22

G- Was there a formal mechanism, you said that access was only obtained if you had grabbed an appropriate ear. Is there a formal mechanism for getting to that ear? (15:22)

No. The formal mechanism was, it should have been, and this was implicit in my advice to the COVID inquiry. I don't think I'll be called to give evidence because it's obvious advice. The formal mechanism would have been the Royal Society. So that is the instrument that would be representing the scientists and the academics in guiding the government and its advisory bodies on the quality of the advice that they were receiving. And of course, RAMP was the, if you like, the initiative.

G- Does the royal society overlap SAGE? (16:39)

No, not in the slightest. And in fact, it is interesting that the Royal Society themselves had work groups and indeed wrote a very lengthy paper about modelling, which had absolutely no overlap with me or the independent Sage or indeed the Sage. So that was another initiative. So, there was very little joining the dots. in a way that should have been joined.

G- That is a lot of movement going on at one time without a formal mechanism to keep it together. (17:16)

And, you know, yes, yes.

You know, I mean, ultimately, you know, the formal mechanism that is closest to the government would be SAGE, but there was nobody, you know, so who, who, who have oversight over SAGE, that would be the Royal Society, but it was, you know, SAGE didn't need any oversight, they were too busy doing their own modeling. So I should say, by modeling, I'm including sort of all the behavioral modeling, agent based modeling that underwrites sort of decisions about communication of policies, underwrite sort of things like testing and tracking and sort of good old-fashioned public health approaches to the epidemiological. So everything that you might have to, every lever that you could pull or knob you could turn was considered by members of Sage. And it was a diverse field of challenges that they had to deal with. And of course, they were just using what they thought were the best approaches. I don't think they had time or any interest in listening to anybody else. (18:29)

G- Now, you have described both capacity challenges and people who have the capacity facing access challenges. How would you have organized to bring those things together?

Yeah, retrospectively, I would have cancelled a greater role for the Royal Society so that the sage was accountable to and was usefully informed by the Royal Society and then the brief of the Royal Society would have been to be slightly more on the ball when it came to finding potential experts in the field.

G- Was part of SAGE's value to the government that it was not accountable to the Royal Society? (19:29)

No, I don't think so. The Royal Society is there to provide a non-governmental, academic, clinical and scientific. And you could include within the Royal Society the Academy of Medical Sciences, which is a sort of the clinical side of that. And indeed, there was a lot of crosstalk between the Royal Society and the Academy of Medical Sciences in this space.

No,

The Royal Society would be the ultimate, if you like, point of reference of a non-governmental sort.

G- You said that RAMP, sorry, that SAGE did not have a lot of impact on decisions that were made or policies implemented.

Well, initially they certainly did. What I meant to imply was that as time went on, they clearly did not have the ear of the decision makers at the level of the Cabinet Office and the Prime Minister's Office that one would have anticipated or hoped for. So there was clear tension between people like Patrick Vallance and Chris Whitty and their advice and what was actually being decided and done. This was later on though. This was, you know, around vexed issues about should we cancel Christmas and the

like. Initially, everybody was shouting about, You should do this, you should do that, and the government would, just trying to do whatever they were told or pretend to do whatever they're told and not look stupid in the process.

G- So there are political considerations that run up against scientific advice. The political considerations are somewhat more malleable that the scientific advice, how did that interaction play out from what you saw during Covid and what would be a more ideal way for those forces to interact? (21:50)

Yeah, I'm not sure that I can give you a very informed decision here because my understanding and involvement was very colloquial, either through Independent Sage and the politicians who were outside Westminster. So, you know, the politicians we engaged with were those people who were not actually part of the cabinet or indeed even part of central government. They were sort of largely mayors around provincial politicians who were... wanting to sort of skill themselves and learn what was, what they needed to know to advise their local communities. And the interaction with the Cabinet Office was very personal. You're just two years away from Boris Johnson. (22:38)

So I don't know really what the mechanics of Sage in and of itself was in terms of relating to the decision makers, what could and should be done on what they would advise. And that relationship relating would have been would have been through just two key people, which was basically Chris Whitty and Patrick Vallance. So I think that's another mechanism that would be interesting to keep in mind.

So people like the advisors to the government, who are trying to synthesize all the advice they're getting from Sage are responsible for communicating that to the decision makers. And of course, their job is incredibly difficult because as we say, when you go to a weekly Sage meeting, I imagine you've got 30 people all trying to say what they think, which is not always going to be consistent with what the next person thinks. So, I imagine, and I have no particular source memory of this, but certainly listening to my friends and colleagues on the independent Sage, it was more a role of people like Patrick Vallance and Chris Whitty, the go-betweens between Sage and the decision makers. you're just sitting there trying to absorb the general mood music and then saying thank you so much, thank you so much, just stroking and endorsing without really remembering what they've been told simply because it's too much. So I think that would be one failure mechanism. 24:20

So, you know, it may well be that the advice from Sage that would be generated in partnership with the Royal Society as the, if you like, the sort of body responsible for making sure that the composition of Sage in and of itself is correct would have to be, I think, more fluidly and gracefully engineered. So the

communication between Sage and the Cabinet Office would have to be much more. And part of that, certainly earlier on, may have been confounded by mavericks within the Cabinet Office like Dominic Cummings. 25:03

So these people just didn't listen to Sage. They had their own sort of source of advice, people who thought that they were modelling had no experience. So even if Chris Witty and Patrick Vallance and that kind of public servant did their job effectively. They were doing it in the context of other advice coming in from other sources, even to the extent that you've got maverick or sort of rogue groups such as the well, can you remember what it's called now? It was I can't remember, but it was it was a group funded by right wing neoconservative politicians in the in the States who met in Boston and then the scene entering number 10 so completely.

G- I do vaguely remember that happening. There were a lot of strange, almost theatrical occurrences in those couple years. It was quite an active time but i vaguely remember that happening.The Covid report states that SAGE is not mandated for long term emergencies, I was surprised to read that. What is mandated for long-term emergencies in the U.K? (26:43)

I really don't know, but I think you're absolutely right to observe that SAGE is brought together in crisis. So people imagine that SAGE is a standing body that can be there in order to provide advice when something happens. It's not. People could come in and out of the stage on a yearly, if not monthly basis, depending upon depending upon what is needed at that time. And of course, because what is needed at that time does not always have a long-term future pointing aspect.

To my knowledge, there is none. So, you're talking now about sort of... ideally things like the inquiries would provide guidelines and strategy for long term planning.

You could argue that as a response to the failure to have any long-term strategic advice, the NHS England was closed down and replaced with the UK, can't remember the acronym now, the health authority that replaced it, that now is in charge of certainly sort of infectious diseases and public health emergencies of this sort. They may have a better long-term structure and they may be more enduring, but I'm not sure that they would be able to play the role of sage in the next crisis. So, the other issue, I mean, this is just my personal opinion, but of course, you are talking about equipping an institution with a persistent, enduring and reliable and veridical source of scientific and clinical advice to people who come and go.

00:28:39

So there's absolutely no point in building a relationship with Boris Johnson. And indeed, with the at one point I was, you know, I said before, I was request, I was asked by the Cabinet Office by the senior person, the director of, I can't even remember the title there, but something like statistics and medical health, for example, and put a lot of time into providing useful reports and critiques of what stage we're doing in terms of their modelling. And then three weeks later, he was moved on to some other post. So there's no, you know, the people you're dealing with change on a yearly basis, but sometimes even on a monthly basis. So there's no real point in trying to, I think, have in place a long-term body because each time you replace the Prime Minister or the Health Minister or the advisors to the Cabinet Office, they will have their own favourites and they'll just pick those favourite people that they know. to head up the next SAGE or whatever. (30:00)

G- How would that cycle potentially be broken?

You just have to refer to enduring institutions, academic scholarly bodies like the Royal Society that have that gravity, that status and that endurance that is always there. irrespective of the government in charge at any one particular time or the composition of the decision makers at the cabinet office in central government.

G- You have repeatedly made reference to a lack of capacity to incorporate more longer-term futuristic planning and thinking. That is going to be, more often than not, down to political considerations and election cycles as you described. How can that be overcome? (31:09)

Well, you know better than I do. I would imagine that you need to install some long-termism into the decision making and make it more electorally favourable. So, such that it is a good thing for a politician to say, look, we are taking the advice of the Royal Society. That is advice that is consistent, is not subject to the pressures of re-election and electoral cycles or geopolitics, particularly with people like Trump in charge. An anti-science movement is particularly worrying in relation to this kind of advice, so you just need to, I think. Empower and underwrite and endorse the ability of institutions of an apolitical sort that have the interest of the populace from a scientific perspective at heart for the common good to have a meaningful influence on decision-making. Now, for that to occur, you have to have politicians that will listen, and be seen to be acting upon that advice. And which means that they're listening to and acting upon the advice of institutions such as the Royal Society that are apolitical has to be seen as an attractive way to behave from the from the voting populace. That is not easy, but that would be the solution to present yourself as a good politician because you're listening to apolitical advice.

G- did either decision makers or the media which in a way you just referred to, did they understand the scientific advice that was given during the covid pandemic? 33:28

I don't know, I'm afraid, because I never spoke directly to Boris Johnson. I had colleagues, I'm trying to remember the names now, but I'm sorry it's such a long time ago, I can't, who did, but I never spoke to him directly, so I'm afraid I don't know. I heard rumours that he understood nothing and not surprisingly.

00:34:07 in a more general sense perhaps....

Can you repeat the question then in a more general sense?

34:00 Did you get the impression that decision makers and/or media understood the scientific advice as it was given, from SAGE, Independent SAGE, RAMP....

right. Yeah. So that, yeah. So, the scientific media, absolutely. They were brilliant. Yeah. The scientific media were excellent. Certainly, those members of the scientific press and reporters that I came across largely through independent SAGE. They made every effort to understand exactly what was going on and they had quite, coming from quite an informed place because that was their job they had to know. And if they didn't know, they asked. So, I spent quite a long time just taking people by the hand through certain technical details or things that they hadn't been exposed to before because it was their job to understand it. No, they were brilliant. Well, with the exception of the hard right red top press who noted that most of independent sage were socialists. Apart from that, the actual scientific reporting was absolutely excellent.

The converse for the politicians. And I was about to say it's understandable because these people have no foundational training in either epidemiology or the complex system modeling that you would require to understand the, you know, the implications of doing this or doing that or vaccination, you know. So it would be like, you know, asking me, you know, would (Sorry, I've forgotten his name now). The new RFK, the new head of the FDA in the anti-vac person in America. (35:58)

So, you know, to a certain extent, you're dealing with that kind of character. You know, zero scientific training, lots of opinion, very well informed. Boris Johnson, obviously very well informed. But these people do politics and philosophy. They don't do natural sciences or how the body works or how communities work or how germs work. They just don't do that. They are trained in politics and philosophy or languages. So they have no real, they don't have any space in which they can understand a graph. or understand a projection or understand a confidence interval or understand a statement in

terms of the relative risk of pursuing this versus pursuing that. It's all in the gut and it's a gut that was developed by studying in their formative years the wrong kind of material that is required to handle an epidemic, possibly handle a war extremely well, but not a pandemic.